Rugged HD-SDI H.264 Video Recorder and Streamer

Model: SD-7RV3CH

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The SD-7RV3CH is an intelligent, HD-SDI H.264 Recording and Streaming solution that accepts HD-SDI inputs at up to 1080p30 and encodes record and support streams over 100/1000MBit Ethernet. The SD-7RV3CH solution is ideal for demanding applications in Military, Airborne, UAVs, Navy Communications, Armoured and Tracked Military Vehicles.

The flexible streaming engine can stream the compressed video direct from the on-board Ethernet port as well as save directly to local storage for later retrieval. Stereo audio embedded in the input HD-SDI source can also be captured and streamed, synchronized with the video. Designed for wide range military application, SD-7RV3CH supports extraction of KLV (MSB 0605.3 compliant) embedded data contained within the HD-SDI that can be synchronized and streamed with the compressed video.

The SD-7RV3CH also features optional on-board Controller Area Network (CAN), 3-Axis Accelerometer, High sensitivity GPS receiver, Altimeter, and 3-Axis Digital Magnetometer (e-compass). These can integrate with other systems and data from these sources can be used as meta data embedded within the video and streamed to clients or saved for later analysis.

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Highlights

- 6th generation Intel® Skylake i7-6600U Processor
- 2x HD-SDI inputs up to 1080p30
- Real-time HD H.264 encode at 1080p30
- 4x PAL/NTSC/RS-170 composite video inputs (Optional)
- Low power operation for long endurance
- Optional CAN, GPS, Altimeter, Accelerometer, Compass
- Up to 2TB Solid State Storage
- 4x USB 3.0, 2x GbE, 2x RS-232/485

Applications

- Rapid Deployment Video Recording solutions
- Unmanned vehicles (UAV, ROV)
- Rugged video recorders for Aviation ,Marine
- Situational Awareness
- Remote Video Surveillance
- Border Security
- Traffic Monitoring and Control
- Video Acquisition and Analytics
- Solid state multi-channel video and sensor recorders

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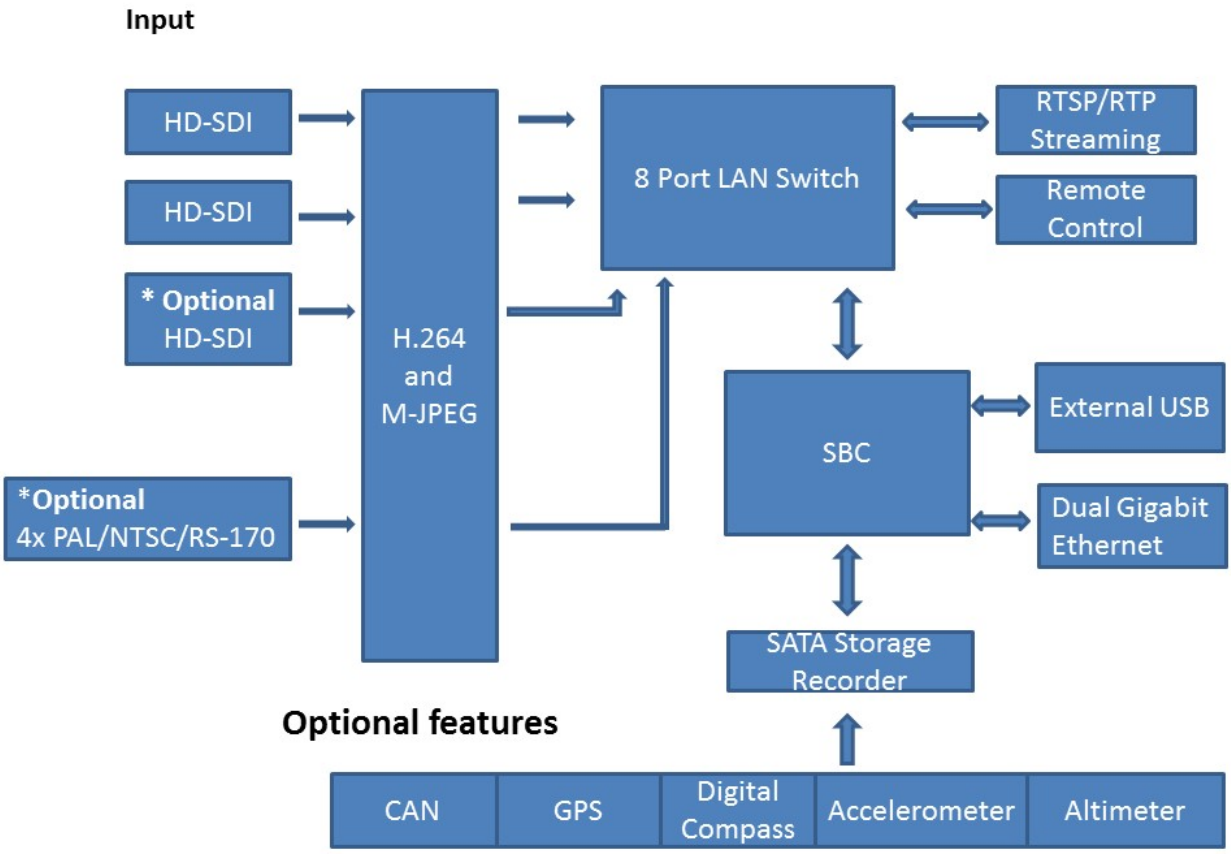
Block Diagram



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Specifications

Processor

- 6th generation Intel® Skylake i7-6600U Processor
- Support Dual Channel DDR3L 1600 up to 16GB
- 3 independent displays: LVDS/Display Port/HDMI/VGA

HD-SDI Video Input

- 2 x HD-SDI Flexible Capture at up to 1080p30
- *Optional 3x HD-SDI input channels

Analog Video Input (Optional)

- Up to 4 concurrent PAL / NTSC / RS-170 composite video inputs
- Four 10bit Analog-to-Digital converters
- Anti-aliasing filter on inputs

Audio Input

- Embedded Audio captured from HD-SDI input
- Provides Audio/Video synchronization

H.264 Video Encoding

- ITU-T H.264 (ISO/IEC 14496-10), supported profiles: Baseline profile, Main profile (I,P frame coding only) High profile (I, P frame coding only) at level 4.1
- Up to 1080p30 encode
- CAVLC and CABAC coding
- Supports Variable Bit Rate (VBR)
- Supports Constant Bit Rate (CBR)

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JPEG Encoder

- JPEG (ISO/IEC 10918-1)
- Baseline JPEG with JFIF support

Network interface

- 2x Gigabit Ethernet
- 10/100/1000 Auto-negotiation
- miniPCIe slot for optional WiFi or 4G Modem

Storage

- 1TB MLC SATA3 2.5" Military Rugged -40°C +85°C SSD
- Optional 2TB MLC SSD
- Optional 512GB SLC SSD

Power Requirements:

- Wide range input +9V to +36V DC
- Reverse polarity protection
- Overload protection and transient voltage suppression

Environmental

- Operating temperature: -40ºC to +71ºC
- Storage temperature : -50°C to 85°C
- Operational Altitude (20,000ft) MIL-STD-810G, Method 500.5, Procedure II.
- Humidity: MIL-STD-810G, Method 507.5, and Procedure II.
- Sand and Dust: MIL-STD-810G, Method 510.5 Procedure I (Dust) & II (Sand).
- Salt Spray: MIL-STD-810G, Method 509.5.
- Fungus: MIL-STD-810G, Method 508.6.
- Vibration: MIL-STD-810G method 514.6, procedure I.
- Mechanical Shock: MIL-STD-810G, Method 516.6 Procedure I & V.
- Acceleration: MIL-STD-810G, Method 513.6, Procedure I, II and III.
- EMC /EMI : MIL-STD-461 CE102, CS101, CS114, CS115, CS116, RE102 , RS103

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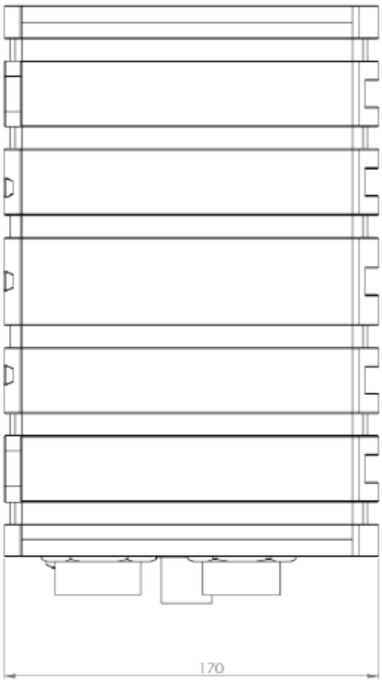
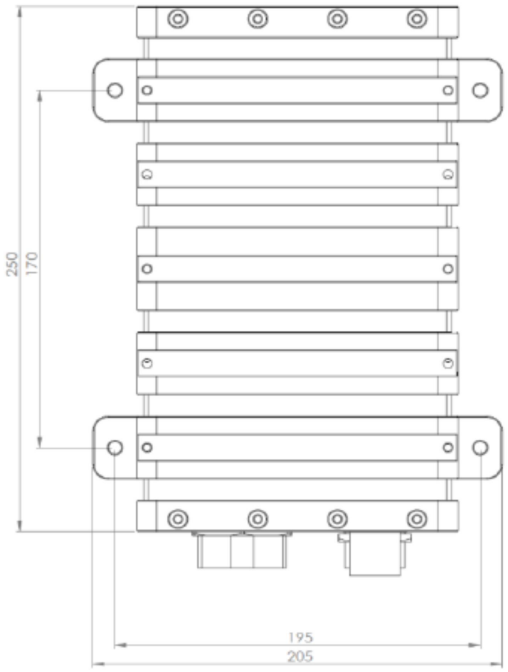
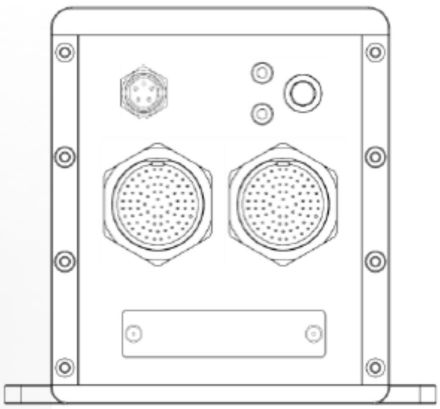
Mechanical







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